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Title of Document

New Methods for Finding Old Wells; Techniques for Large Areas

Kinetics of hematite (Fe_2O_3) to wüstite by hydrogen (H_2) for chemical looping combustion

CO_2 concentrations and pH alters subsurface microbial ecology at reservoir temperature and pressure

Characterizing Density and State of Abandonment of Legacy Wells in Pennsylvania

Oxy-combustion Environmental Characterization: Fire- and Steam-Side Corrosion

NETL's Variable Grid Method for Simultaneous Visualization and Assessment of Spatial Trends and Uncertainty

Leakage detection of Marcellus Shale natural gas at an Upper Devonian gas production well: a 3-D numerical simulation

Imaging Techniques for Analyzing Shale Pores and Minerals

Characterization of Experimental Fracture Alteration and Fluid Flow in Fractured Natural Gas Reservoirs

Multi-Property Characterization Chamber for Hydrate Bearing Sediments

Water Permeability in Hydrate Bearing Sediments: A Pore-scale Study

Atomically Precise Au_{25} Nanoclusters for Efficient Electrochemical CO_2 Conversion

Atomically Precise Au_{25} Nanoclusters for Efficient Electrochemical CO_2 Conversion

Industrial Raman gas sensing for real-time system control

Comparison of relative advantages of surface coal gasification vs. underground coal gasification (UCG)

Comparison of isotopic and geochemical characteristics of sediments from a gas and liquid prone well

Evaluating the Effectiveness of Electronic Water Quality Monitoring to Detect Surface Spills Related to Oil and Gas Production

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Degradation of Gas Separation Membrane Alloys in Coal-Derived Syngas

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Chemical reaction mechanisms between YSZ and GDC with PH_3 in coal syngas

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Theoretical Synthesis the Mixed Solid Sorbents for CO_2 Capture Applications

High Pressure Steam Oxidation

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High Pressure Steam Oxidation of Ni-base Superalloys in Advanced Ultra-Supercritical Steam Boilers and Turbines

Toward the Optimization of Collaborative Energy Supply Systems Influenced by the Analysis of Oregon's Energy Resources

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Dynamic Imaging of Multiphase flows in Rock using computed tomography

Foamed cement analysis with computed tomography

Reactive Geochemical Flow Modeling with CT Scanned Rock Fractures

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Control Strategy for Fuel Cell Turbine Hybrid Systems

Evaluation of Cathode Airflow Transients in an SOFC/GT Hybrid System using Hardware in the Loop Simulation

Cold Air as a Function of Pressure Drop in Fuel Cell Turbine Hybrid Systems

Fuel Composition Transients in Fuel Cell Turbine Hybrid for Polygeneration Applications

Adaptive Control of a Nonlinear FC-GT Balance of Plant Simulation Facility

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Hardware in the Loop Simulation of Fuel Cell Gas Turbine Hybrid Accelerated Degradation
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 Theoretical Screening of Mixed Solid Sorbents for CO₂ Capture Technology
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 Task 2—Materials for Advanced Boiler and Oxy-combustion Systems (US)
 Task 1—Steam Oxidation (US)
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 Pinning force from multiple second-phase particles in grain growth
 Assessment of Foamed Cement used in Deep Offshore Wells
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 Determining the contribution to slag, flyash, syngas in entrained flow gasification
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 Task 2—Materials for Advanced Boiler and Oxy-combustion Systems (NETL-US)
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 Enhancement of SOFC Cathode Performance by Infiltration
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 Corrosion Issues of Advanced Steels in Exploration of Oil and Gas Wells
 Application of Laser Induced Breakdown Spectroscopy (LIBS) to Carbon Sequestration Research and D
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 Laser Induced Breakdown Spectroscopy (LIBS) for Monitoring of Carbon Sequestration
 An approach for assessing engineering risk from shale gas wells in the United States
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 Theoretical Synthesis of Mixed Materials for CO₂ Capture Applications
 Ab Initio Thermodynamic Approach to Identify Solid Sorbents for CO₂ Capture Technology
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 Experience in chemical looping combustion with metal oxide carriers
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 Methanogenic Archaea in Marcellus Shale: A Possible Mechanism for Enhanced Gas Recovery in Uncon
 Kick Detection at the Bit: A Novel Approach for Early Detection via Low-Cost Monitoring
 Similitude in Cyclone Separators
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 The two-fluid-model in the open-source code MFIx
 The two-fluid-model in the open-source code MFIx
 Presentation
 Predictive Simulation of Diffusion in Ni-based Alloys using Pair Interaction Model Based Kinetic Monte Carlo
 Presentation
 Presentation
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 Hierarchical Calibration and Validation of High-fidelity CFD Models with C2U Experiments
 UNSTEADY CFD SIMULATION OF HEMATITE REDUCTION BY METHANE IN A BUBBLING FLUIDIZED BED
 UNSTEADY CFD SIMULATION OF HEMATITE REDUCTION BY METHANE IN A BUBBLING FLUIDIZED BED
 NUMERICAL STUDY OF GAS-SOLID FLUIDIZED BED DYNAMICS WITH DIFFERENT DISTRIBUTOR DESIGNS
 NUMERICAL STUDY OF GAS-SOLID FLUIDIZED BED DYNAMICS WITH DIFFERENT DISTRIBUTOR DESIGNS
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 Algific Talus Slopes in Iowa's Paleozoic Plateau and the Central Appalachians
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USING STABLE ISOTOPES TO TRACK SOURCES AND FATE OF CARBON in HIGH CO₂ NATURAL ANALOG S
Application of Model Predictive Control for Rapid Combined-Cycle Load Following Using Custom Dynar
Letter to Physics Today
Effect of coal properties and operation conditions on flow behavior of coal slag in entrained flow gasifi
Carbon Dioxide Mineralization of Industrial Products

Role of Lithology in Methane Flux from an Alaskan Thermokarst Lake
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Video Analysis Techniques that Accurately Estimated Oil Leak Rates during the Deepwater Horizon Cri
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Nanocomposite Alloy Design for High Frequency Power Conversion Applications
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AVESTAR Center for Operational Excellence of Clean Energy Plants
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Molten catalytic coal gasification for methane rich syngas

Operation of a Solid Oxide Fuel Cell on Reformed Biodiesel
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 In-situ and Ex-situ Optical and Structural Characterization of TiO₂ and Au Nanoparticle Incorporated TiO₂
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 Comparison Between Equilibrium and Kinetic Models for Methane Hydrate Dissociation
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 Materials Performance in USC Steam
 Task 1—Steam Oxidation (NETL-US)
 Task 2—Materials for Advanced Boiler and Oxy-combustion Systems (NETL-US)
 Fireside Corrosion in Oxy-Fuel Combustion of Coal
 Fireside Corrosion
 Task 1—Steam Oxidation (NETL-US)
 Task 2—Materials for Advanced Boiler and Oxy-combustion Systems (NETL-US)
 Tracking Changes in the SMT with Magnetic Susceptibility in Gas Hydrate Bearing Stratigraphy
 Oxidative steam reforming
 Application of laser induced breakdown spectroscopy for carbon quantification in soil samples

CO₂ utilization by Solar assisted Photo-electrochemical methods
Determination of elemental impurities in plastic calibration standards using laser induced breakdown
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Materials Performance in USC Steam
Review of Gasification Technologies
Fireside Corrosion
Materials Performance in USC Steam
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Preliminary Experimental Investigation of the Effects of Particulate Deposition on IGCC Turbine Film-Cooling

Influence of sulfur poisoning on CO adsorption on Pd(100)
Influence of sulfur poisoning on CO adsorption on Pd(100)
Direct versus hydrogen assisted CO dissociation on metal surfaces
Fireside Corrosion in Oxy-Fuel Combustion of Coal
CO₂-CH₄ Reforming Over Ni-Substituted Barium Hexaaluminate Catalysts
Implicit constitutive relations in thermoelasticity
Implicit constitutive relations in thermoelasticity
A note on unsteady flows of inhomogeneous incompressible fluids
A brief review of viscosity models for slag in coal gasification
A generalization of Reiner's mathematical model for wet sand
Heat Transfer in Complex Fluids
Remarks on Constitutive Modeling of Nanofluids

Application of the theory of interacting continua to blood flow
Modeling and numerical simulation of blood flow using the Theory of Interacting Continua
Analytical solutions to Stokes-type flows of inhomogeneous fluids
Investigations of Localized Corrosion of Stainless Steel after Exposure to Supercritical CO₂
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CO₂ Reforming of Hydrocarbon Feedstocks
Metallic membrane materials development for hydrogen production from coal derived syngas
Microstructure and corrosion behavior of the Cu-Pd-X ternary alloys for hydrogen separation membranes

Microstructure and hydrogen transport property of a Mg-doped Cu-Pd alloy
Effect of hydrogen-sulfide on the performance of a palladium-copper-silver membrane alloy
MP-PIC Simulation of CFB Riser with EMMS-based Drag model
Synthesis and electrochemical performance of novel (Ir,Sn,Nb)O₂ anode electrocatalyst with reduced noble metal content for PEM based water electrolysis
Computational Studies of Experimentally Observed Structures of Sulfur on Metal Surfaces
Ordered bcc phases in a Cu-Pd-Mg hydrogen separation membrane alloy
Permeability of Coal and Coal-Biomass Mixtures as Feedstocks to Reduce Net Carbon Emissions
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Novel (Ir,Sn,Nb)O₂ anode electrocatalysts with reduced noble metal content for PEM based water electrolysis
Flue Gas Cleanup Using the Moving-Bed Copper Oxide Process
Virtually Simulating the Next Generation of Clean Energy Technologies
Rigorous Kinetic Modeling, and Optimization, and Operability Study of a Modified Claus Unit for an Integrated Sulfur Recovery
AVESTAR Center for Clean Energy Plant Operators of the Future
AVESTAR Center for Operational Excellence of Clean Energy Plants

Grindability Determination of Torrefied Biomass Materials Using the Hybrid Work Index
High Resolution Methods for Preserving the Sum of Mass Fractions: Improved Chi-Scheme and an Alternative
Ultrasonic Detection of Delamination and Material Characterization of Thermal Barrier Coatings
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CFD simulation of solid-sorbent CO₂ absorption in a riser reactor: a parametric analysis of the adsorption process
Parametric behavior of a CO₂ adsorption process: CFD simulation of solid-sorbent CO₂ absorption in a riser reactor
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Chemical Looping for Methane Conversion with Simultaneous CO₂ Capture for Industrial Applications
Selective Adsorption of CO₂ from Light Gas Mixtures Using a Structurally Dynamic Porous Coordination Polymer
Synthesis, Characterization, Electronic Structure and Photocatalytic Behavior of CuGaO₂ and CuGa_{1-x}Al_xO₂

Emergency Shutdown Strategies for Fuel Cell Turbine Hybrids
Emergency Shutdown Strategies for Fuel Cell Turbine Hybrids
Control Strategy for Fuel Cell Turbine Hybrid Emergency Shutdown

Control Strategy for Fuel Cell Turbine Hybrid Emergency Shutdown
 Simulation of Methane Steam Reforming in a Solid Oxide Fuel Cell for the Prediction of Inlet Freezing
 Open-Loop Response of a Fuel Cell Turbine Hybrid to Load Variations
 Study of an Ammonia-Based Wet Scrubbing Process in a Continuous Flow System
 Rapid Formation of Gas Hydrates with the Potential to Separate Lower Concentrated Gases from Natural Gas
 AVESTAR Center for the Operation and Control of Clean Energy Plants (Pittsburgh)
 AVESTAR Center for the Operation and Control of Clean Energy Plants
 Optical Thin Films for Gas Sensing in Advanced Coal Fired Power Plants
 Fireside Corrosion
 Gasifier Refractories, Coal Slags, and Their Interaction
 AVESTAR Center for Operational Excellence of Clean Energy Plants
 Laser induced breakdown spectroscopy (LIBS): A potential tool for atmospheric carbon dioxide measurement
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 Potential Geologic Co-Sequestration of CO₂-O₂ : Alteration in Class H Portland Cement
 Advances in Geological CO₂ Sequestration and Co-sequestration
 The successful development of shale gas resources in the United States
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 Optimization of Water Use and Cost of Electricity for an MEA Carbon Capture Process
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 Evaluation of chemical looping process with simulated synthesis gas from stream gasification of coal
 Evaluation of methane CLC on bi-metallic oxygen carriers
 Shale Gas Production and the Environment
 Sol-gel Prepared Nanocomposite Au / TiO₂ Thin Films for Localized Surface Plasmon Based Optical Gas Sensing
 Imaging artifacts of gas hydrate
 Incorporation of promoters to enhance the oxygen capacity and reaction rates of iron oxide oxygen carriers
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 TRACKING CHANGES IN THE SMT WITH MAGNETIC SUSCEPTIBILITY IN GAS HYDRATE BEARING STRATIGRAPHIC SECTIONS
 Sorbents for Gasification Processes
 Simulation to Train Operators to Safely Operate Advanced Energy Plants
 Nanocomposite Alloy Design for High Frequency Power Conversion Applications
 AVESTAR Center for Operational Excellence of IGCC Power Plants with CO₂ Capture
 Long-term stability of SOFC composite cathode activated by electrocatalyst infiltration
 Risk Assessment for the Development of Shale Gas Resources in the United States
 Phase field simulation of twin boundary fractions in fully lamellar TiAl alloys
 Utilizing Optical Measurements to Characterize Metal Oxide Thin Films for Gas Sensing in Advanced Coal Fired Power Plants
 Study of Mineral Surface Interactions Related to Possible Contamination of Groundwater by Toxic Metals
 EFFICIENT THEORETICAL SCREENING OF SOLID SORBENTS FOR CO₂ CAPTURE APPLICATIONS
 Analysis of Non-Symmetrical Behavior of Two Parallel Gas Turbine Recuperators
 EVALUATION OF METHODS FOR THERMAL MANAGEMENT IN A COAL-BASED SOFC TURBINE HYBRID THIN FILM
 Bubbling Fluidized Bed Characterization using Electrical Capacitance Volume Tomography (ECVT)
 Coal lithotypes before, during, and after exposure to CO₂; Insights from direct FTIR investigation
 Pore scale characterization of undisturbed natural hydrate bearing sediments: Utilizing micro x-ray CT
 Pre-combustion Capture of CO₂ from Power Generation
 Investigation of transport and mechanical properties of hollow fiber membranes containing ionic liquids

Efficient Theoretical Screening of Solid Sorbents for CO₂ Capture Applications
 Mechanical and Transport Characteristics of Coal-Biomass Mixtures for Advanced IGCC Systems
 CCSI and the role of advanced computing in accelerating the commercial deployment of carbon capture
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 Methane Hydrate Accumulation Habits in Porous Media: X-ray CT Scans and Core Scale Modeling
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 Density functional theory studies on the electronic, structural, phonon dynamical and thermo-stability
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 A 1-D Three Region Model for a Bubbling Fluidised Bed Adsorber
 Parametric Study for an Immobilized Amine Sorbent in a Regenerative Carbon Dioxide Capture Proces
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 Fireside Corrosion in the Oxy-Combustion of Coal
 Task 1—Steam Oxidation (NETL-US)

Computational modeling of microstructural evolution in alloys for advanced fossil power systems
 On the Modeling of a Single-stage, Downward-firing, Entrained-flow Gasifier
 Characterization of the Marcellus Shale in the Appalachian Basin
 CFD Modeling of Entrained-Flow Gasifiers with Improved Physical and Chemical Sub-models
 Dynamic Modeling of a Single-Stage, Downward-Firing, Entrained-Flow Gasifier
 Dynamic Modeling of Two-Stage Adsorber For Solid-Sorbent CO₂ Capture
 Effect of Sour Environment pH on Crack Morphology in Ultra Strength Drilling Steel under Cyclic Stress
 Comparison of high-pressure CO₂ sorption isotherms on Eastern and Western US coals
 Optimal Control System Design for IGCC Power Plants with CO₂ Capture
 State Estimation of an Acid Gas Removal Unit for an IGCC Power Plant with CO₂ Capture
 Dynamic Modeling and Transient Analysis of a Solid-Sorbent Adsorber for CO₂ Capture
 Control System Design for Maintaining CO₂ Capture in IGCC Power Plants While Load-Following
 Control of activity and stability by tailoring microstructure of electrocatalyst-modified composite catho
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 the Thermodynamic Properties of CO₂ Capture Reaction by Solid Sorbents: Theoretical Predictions and
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 Rapid Detection of Sub-Scale Particle Features Using Invariant Harmonic Wavelet Descriptors
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 Design of Fluidized Bed System with Adjustable Diameter to Study Wall Effects

CFD Modeling of Entrained-Flow Coal Gasifiers with Improved Physical and Chemical Sub-models
 Electro-catalytic Properties of Nano-crystalline Calcium-Doped Lanthanum Cobalt Oxide for Bi-function
 Effect of acid concentration on the structure and electrochemical performance of Li_2MnO_3
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 Electro-deposition of Amorphous Silicon Anodes Exhibiting High Reversible Capacity and Cycling Stab
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 Electrospun $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ Nanofibers for High Sensitive and High Temperature CO Electrochemical
 Electrochemical and structural investigations on ZnO treated $0.5\text{Li}_2\text{MnO}_3$ - $0.5\text{LiMn}_{0.5}\text{Ni}_{0.5}\text{O}_2$ layered
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 Enhanced IGCC Regulatory Control and Coordinate Plant-wide Control Strategies for Improving Power
 Dynamic Maximization of Oxygen Yield in an Elevated-Pressure Air Separation Unit using Linear Multip
 Soft Magnetic Materials in High Frequency, High Power Conversion Applications
 CFD Modeling of Entrained-Flow Gasifiers with Improved Physical and Chemical Sub-models
 A One-Dimensional Transient Model of a Single-Stage, Downward-Firing, Entrained-Flow Gasifier
 Dynamic Modeling and Control of a Solid-Sorbent CO_2 Capture Process with Two-Stage Bubbling Fluidi
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 Circulating Fluid Bed Riser Computational Fluid Dynamics (CFD) Model Validation with Electrical Capa
 A Method for Direct, Semi-Quantitative Analysis of Gas Phase Samples Using GC-ICP/MS
 Effect of Different Gas-Solid and Solid-Solid Drag Models On the Segregation of a Binary Mixture of Po
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 CFD Modeling of Commercial-Scale Entrained-Flow Coal Gasifiers
 Effect of SO_2 and Steam on Chemical Looping Combustion of Coal with Iron and Copper Oxygen Carri
 Enforcing Elemental Mass and Energy Balances for Reduced Order Models Generated from CFD Simula
 Dynamic Modeling and Control of a Solid-Sorbent CO_2 Capture Process with Two-Stage Bubbling Fluidi
 Comparison of CO_2 Storage Resource Methodologies
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 Synergetic Effect of Mixed Copper-Iron Oxides Oxygen Carriers in Chemical Looping Combustion
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Evaluating the Viability of CO₂ Mineralization Via Reaction of Caustic Waste Materials
Characterizing CO₂ Storage Potential in Depleted Shale Gas Reservoirs
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Direct Power Extraction with Oxy-Combustion: An overview of Magnetohydrodynamic Research Activities
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Performance impact associated with Ni-based SOFCs fueled with higher hydrocarbon doped coal syngas
Integrated Assessment Model for Predicting Potential Risks Associated with Shale Gas Development
Field Test of an Alternative Hypothesis for Stray Gas Migration from Shale Gas Development
Phase-field modeling of microstructural evolution in industrial alloys
Fireside Corrosion in Oxy-fuel Combustion of Coal
Fireside Corrosion in Oxy-fuel Combustion of Coal
Oxy-Combustion Environment Characterization: Fire- and Steam-Side Corrosion in Advanced Combustion
Optical fiber evanescent absorption sensor design for high-temperature gas sensing in advanced coal
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Temperature and Heat Transfer Measurements in the NETL Aerothermal Rig
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Computational modeling of microstructural evolution in Ni-base superalloy and high temperature oxidation
Phase field modeling of metal oxidation kinetics and its microstructure dependence

Metal Oxide Based Thin Films for Optical Gas Sensing at Extreme Temperatures and in Harsh Environments
Synthesis, Structure, Property Correlations in FeCo-SiO₂ Nanogranular Thin Films for High Frequency Inductors
Effects of Surface Hydrophobicity on the Kinetics of Methane Hydrate Formation in Partially Water-Saturated
Slag Management System during Gasification
Discrete Modeling of Void Porosity in Rock Cutting
On the Relationship between Mechanical Specific Energy and Rate of Penetration
Plasmonic Transparent Conducting Metal Oxide Nanoparticles and Nanoparticle Films: Novel Materials
Risk Assessment for Hydraulic Fracturing: Perception Versus Reality
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Mechanical and Transport Properties of Hollow Fibers Containing Ionic Liquids for CO₂/H₂ Separation
Improved Efficiency of Gas Hydrate-Based Desalination by Using Cyclopentane and Cyclohexane
Field tests of the Raman gas composition sensor
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A Geochemical Comparison of Oil Prone and Gas Prone Marcellus Shale in the Appalachian Basin
Erosion-Corrosion of Iron and Nickel Alloys at Elevated Temperature in a Combustion Gas Environment
A New Wear Test for Paper Making Fabrics
Synergetic Effects of Mixed Copper-Iron Oxides Oxygen Carriers in Chemical Looping Combustion
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High throughput strontium isotope method for monitoring fluid flow related to geological CO₂ storage
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Rapid field measurement of dissolved inorganic carbon based on CO₂ analysis
Hydrogel tracer beads: the development, modification, and testing of an innovative tracer for better CO₂ monitoring
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CONJUGATE HEAT TRANSFER MODELING OF A FILM-COOLED, FLAT-PLATE TEST SPECIMEN IN A GAS TURBINE
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Estimation of the Thermodynamic Properties for Oil and PAH within the C3M Software
Carbon /MnO₂ Core-Shell Nanofibers for Supercapacitors
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Effect of substitution of cobalt by manganese on the properties of calcium-doped lanthanum cobalt oxide
Microwave Synthesis of Graphene/Sn Nanocomposite Anodes for Lithium-Ion Batteries
Nanostructured transition metal nitride supercapacitors: Effects of composition, structure, and electrocatalytic activity
Electrodeposition of Amorphous Silicon Anode for Lithium Ion Batteries
A Reduced Graphene Oxide/Co₃O₄ Composite for Supercapacitor Electrode
Equivalence Ratio Startup Control of a Fuel Cell Turbine Hybrid System
Emergency Shut-down Strategy for Fuel Cell Turbine Hybrid System

Dielectric studies of supercritical CO₂ treated Green River oil shale
 Numerical Investigation of Rotating Detonation Combustion In Annular Chambers
 Hydrogen From Hydrocarbons: Catalytic Reforming of Liquid Fuels Using Substituted Pyrochlores
 Hydrogen From Hydrocarbons: Catalytic Reforming of Liquid Fuels Using Substituted Pyrochlores
 CO₂ concentration and pH alters subsurface microbial ecology at reservoir temperature and pressure
 CO₂ Sequestration Potential of Charqueadas Coal Field in Brazil
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 Coal Oxcombustion Flowsheet Optimization
 Enforcing Elemental Mass and Energy Balances for Reduces Order Models Generated From CFD Simul
 Integrating the Carbon Capture Materials Database with the Process Simulation Tools of the Carbon Ca
 Model Reduction in Multi-Scale Simulation and Optimization
 Post-Combustion Gas Permeation Carbon Capture System Models
 Pressure Swing Adsorption_Design and Optimization for Pre-Combustion Carbon Capture
 Surrogate Model Based Optimal Synthesis of Solid Sorbent Carbon Capture Process
 Surrogate-Based Optimization of Simulated Energy Systems
 Bayesian Methods in Multi-scale Modeling
 A Combined Cost Model for Analysis of Degraded Water Utilization in Thermoelectric Power Plants
 CO₂ Sequestration Potential of Charqueadas Coal Field in Brazil
 Evolving water management practices in shale gas development

DOE Methodology for Geologic Storage Potential
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 Rheological Behavior of Clay-Nanoparticle Hybrid added Bentonite- suspensions; the Specific Role of H
 Research Shows Benefits of Adding Nanoclay, Nanosilica to Oil-Based HP/HT Drilling Fluids
 Determination of free CO₂ in emergent groundwaters using a commercial beverage carbonation mete
 Thermal regime of the Trough Creek ice mine, a cold air trap in central Pennsylvania, USA
 Selection of domain size for lattice boltzmann simulation to calculate flow properties of porous media
 Laboratory and numerical simulation based investigation of two-phase brine-CO₂ displacement proce
 Utilization of Multiple Waste Streams for Acid Gas Sequestration and Multi-Pollutant Control
 Life Cycle Greenhouse Gas Analysis of Advanced Jet Propulsion Fuels: Fischer-Tropsch Based SPK-1 Cas
 Demonstration of 1st Generation Integrated Assessment Model for CO₂ Storage Risk Assessment
 ICMI - CO₂ Storage in Depleted Shale Gas Reservoirs
 Thermal Behavior of Coal and Biomass Blends in Inert and Oxidizing Gaseous Environments
 Coal and Biomass Blends Pyrolysis in Inert and Oxidizing Gaseous Environments
 Coal and Biomass Blends Pyrolysis in Inert and Oxidizing Gaseous Environments
 Managing Computational Chemistry for Gasification Modeling Through the C3M Software
 Deterioration of a fractured carbonate caprock exposed to CO₂-acidified brine flow
 CO₂ leakage impacts on shallow groundwater: field-scale reactive-transport simulations informed by c
 Development of high through-put Sr isotope analysis for monitoring reservoir integrity for CO₂ storag
 Use of Slag Management to Extend the Service Life of Cr₂O₃ Gasifiers Refractories
 Na₂CO₃-Promoted MgO Sorbent for Intermediate Temperature CO₂ Removal
 Geochemical and Physical Artifacts of Methane Hydrate in Marine Sediments

Deepwater and Ultra-Deepwater Blowout and Offshore Spill Model

Isotopic evidence of enhanced carbonate dissolution at a coal mine drainage site in Allegheny County

Strontium isotope quantification of siderite, brine and acid mine drainage contributions to abandoned

Geochemical and strontium isotope characterization of produced waters from Marcellus shale natural

Modeling the potential impact of oil spills on commercial fisheries in the northern Gulf of Mexico

Spatial Datasets for Researching the Risks and Potential Impacts of exploration and production of fossil

Optical Thin Films for Gas Sensing in Advanced Coal Fired Power Plants

Fluid bed adsorption of carbon dioxide on immobilized polyethylenimine (PEI): kinetic analysis and breakthrough

Probing the influence of reactions between fracturing fluids and Marcellus Shale on the composition of

Clay Mineralogy and Cation Exchange in the Marcellus Shale

Theoretical Screening of Solid Sorbents for CO₂ Capture

Effects of Surface Hydrophobicity on the Kinetics of Methane Hydrate Formation in Partially Water-Saturated

Design and industrial testing of ultra-fast multi-gas Raman spectrometer

Direct Measurements of Overall Effectiveness and Heat Flux on a Film Cooled Test Article at High Temperature

Experimental Analysis of Flow Unbalance in Two Parallel Counter-Flow Recuperators

The laboratory application of Laser induced breakdown spectroscopy (LIBS) to investigate CO₂ leakage

Application of LIBS for monitoring surface CO₂ leak in carbon sequestration

Classical Nucleation Theory Description of Phase Selection and Compositional Partitioning in Co-Rich

Corrosion of membrane materials for hydrogen separation from coal-derived syngas

Phase field modeling of metal oxidation behavior

Reaction Zone Characterization in a Gas Turbine Model Validation Combustor

Adaptive Control of Balance of Plant Components in a Fuel Cell Gas Turbine Power Plant Simulator

Azimuthal polarization for Raman enhancement in capillary waveguides

Development of reacted channel during flow of CO₂-rich water along a cement fracture

The effect of monomer order on the hydrolysis of biodegradable poly(lactic-co-glycolic acid) repeating

Extreme Temperature Coatings for Future Gas Turbine Engines

Phase Field Simulations on the Precipitation Kinetics of γ' in Ni-base Superalloy Haynes 282

High throughput method for Sr extraction from variable matrix waters and ⁸⁷Sr/⁸⁶Sr isotope analysis

Monitoring Natural Systems

Modeling Energy Flow in an Integrated Pollutant Removal (IPR) System with CO₂ Capture Integrated with

Economic Analysis of Baseload Power Plants Meeting Current & Possible Future GHG Regulations

EXERGY & ECONOMIC ANALYSES OF ADVANCED IGCC-CCS AND IGFC-CCS 2 POWER PLANTS

Thermodynamic and Kinetic Simulation and Experimental Results Homogenizing Advanced Alloys

Effect of Surface Modification by Chelating Agents on Fischer-Tropsch Performance of Co/SiO₂ Catalysts

Optimizing Drilling Parameters: A Preliminary Attempt

Development of a Dynamic Simulator for a Natural Gas Combined Cycle (NGCC) Power Plant with Post-Combustion

AVESTAR Center for Operational Excellence of Electricity Generation Plants

AVESTAR Center for Operational Excellence of Clean Energy Plants and Invensys DYNASIM OTS / EYESIM

AVESTAR Center for Smart Operation of Clean Energy Systems

AVESTAR Center for Operational Excellence of Electricity Generation Plants

Task 1—Steam Oxidation (NETL-US)

Task 2—Materials for Advanced Boiler and Oxy-combustion Systems (NETL-US)

Steam Oxidation of Fossil Power Plant Materials: Collaborative Research to Enable Advanced Steam Power

Boiler Corrosion and Monitoring

Requirements for Standardisation in High-Temperature Corrosion Testing

Sulfur Poisoning of Cobalt Catalysts during Fischer-Tropsch Synthesis: Effect of Modification with Chelating Agents

A Dynamic Process Model of a Natural Gas Combined Cycle – Model Development with Startup and Shutdown

The influence of pressure on the phase stability of nanocomposite Fe₈₈Zr₇B₄Cu₁ during heating from room temperature

Tailored Porosity in Nanostructured Metal Oxides for Optimal Integration with Fiber Optic Chemical Sensors

Nanoparticle-stabilised invert emulsion drilling fluids for deep-hole drilling of oil and gas

Geospatial analysis of natural and engineered data in support of risk assessment for CO₂ storage and transport

Spatial Datasets for Researching the Risks and Potential Impacts of exploration and production of fossil fuels

Impacts from the Exxon-Valdez and the BP-Deepwater Horizon Oil Spills

Discussion about Possibility of Closer Collaboration or Co-authoring

Emergency Shutdown Strategies for Fuel Cell Turbine Hybrid Failure Modes

Thermal Pretreatment Wood for Co-gasification/co-firing of Biomass and Coal

Kinetic study of coal and biomass co-pyrolysis using thermogravimetry

Remarks on constitutive modeling of slag

Impact of temperatures on tar formation from co-pyrolysis of coal and biomass blends

Groundwater Protection During Shale Gas Development

Using strontium isotopes to identify Marcellus Shale derived fluids in Allegheny River watershed, Pennsylvania

Steam-coal gasification using CaO and KOH for in situ carbon and sulfur capture

Phase field modeling of oxidation kinetics: transport of charge carriers, reaction-diffusion and multi-scale coupling

Effect of impurities in coal-derived syngas on hydrogen separation membrane materials

Fireside Corrosion in Oxyfuel Combustion

New 9%Cr Steel for Fossil Energy Use at Temperatures Up To 650C

The Use of Nickel Alloys in Advanced Ultra-Supercritical Steam Turbines

Synthesis and Characterization of Nanocomposites Using the Nanoscale Laser Soldering in Liquid Technological Media

Synthesis and Characterization of Nanocomposites Using the Nanoscale Laser Soldering in Liquid Technological Media

Spontaneous Ignition Nano-sized Al-water slurry

Martensitic 9%Cr Steel for Ultra-Supercritical Steam Applications

Nickel Superalloys in Advanced Ultra-Supercritical Steam Turbines

Creep Life Modeling for High Temperature Processes

Microstructural Evolution in Haynes 282 After High Temperature Creep Exposure

Elevated-temperature corrosion of CoCrCuFeNiAl_{0.5}B_x high-entropy alloys in simulated syngas containing sulfur

Theoretical Screening of Mixed and Substituted Solid Sorbents for CO₂ Capture

Selection of Domain Size for Lattice Boltzmann Simulation to Calculate Flow Properties of Porous Media

Molecular dynamics simulations of carbon dioxide intercalation in hydrated Na-montmorillonite

Monitoring the effect of CO₂ leakage on natural and manmade seal and formation material by laser interferometry

Effect of Sour Environment pH on Crack Morphology in Ultra-High Strength Drilling Steel Under Cyclic Loading

Simulation of Integrated Pollutant Removal (IPR) Water-Treatment System Using ASPEN Plus

Corrosion Behavior of Experimental Ferritic Steel in Coal Synthetic Gas

Models for Environmentally Assisted Crack Growth in Ultra-high Strength Steel in Sour Environments

Effect of Sour Environments on Corrosion Fatigue Crack Propagation in Advanced Drilling Steel

Dissolution-Driven Permeability Reduction of a Fractured Carbonate Caprock

Preparation Chemistry and Surface/Bulk Studies of Cobalt-Containing Nanocomposite Materials Supporting Catalysis

Development of a Fast Raman Gas Composition Sensor for Power Plant Applications

Fluid bed adsorption of carbon dioxide on immobilized polyethylenimine (PEI): kinetic analysis and breakthrough curves

Determining the Coefficient of Restitution through Image Analysis While Simulating Entrained Flow Gas

Atmospheric and soil-gas monitoring for surface leakage at the San Juan Basin CO₂ pilot test site at Pecos

Hydraulic Fracturing and Organic Compounds

Influence of deep subsurface microbiology on shale gas recovery

Concentration-dependent Effects of CO₂ on Deep Subsurface Microbial Ecology under Carbon Sequestration

Concentration-dependent Effects of CO₂ on Deep Subsurface Microbial Ecology under Carbon Sequestration

Comparison of high-pressure CO₂ sorption isotherms on Eastern and Western US coals

Computational Tools for Accelerating Carbon Capture Process Development

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A first-principles density functional theory study of the electronic structural and thermodynamic properties of CO₂

Fluid Bed Characterization Using Electrical Capacitance Volume Tomography (ECVT), Compared to Conventional Methods

Resource Assessment Methods for Geologic Storage in Saline Formations

Evaluating CO₂ Storage Potential in Organic-Rich Shale Formations

The Role of Process Integration in CO₂ Capture for GHG Abatement

The Role of Process Integration in CO₂ Capture for GHG Abatement

Effect of contaminants from flue gas on CO₂ sequestration in saline formation

Azimuthal polarization for Raman enhancement in capillary waveguides

Mixed Solid Sorbents for CO₂ Capture-a theoretical approach

Theoretical Screening of Solid Sorbents for CO₂ Capture applications

Development of Conducting Metal-Oxide Films for use as Optical Gas Sensors at Elevated Temperatures

Metal Oxide Films for use as Optical Gas Sensors at Elevated Temperatures

Calibration and filtering strategies for frequency domain electromagnetic data

CO₂ Absorption Loop Experiment with Eulerian-Lagrangian Simulation

Slag Behavior in Gasifiers. Part I: Influence of Coal Properties and Gasification Conditions

Slag Behavior in Gasifiers. Part II: Constitutive Modeling of Slag

Removal of malaria-infected red blood cells using magnetic cell separators: A computational study

Chemically-reacting fluids with variable transport properties.

Plasmonic Nanocomposite Thin Film Enabled Fiber Optic Sensors for Simultaneous Gas and Temperature Sensing

Theoretical and experimental investigation of optimized evanescent-wave absorption sensors for extrinsic surface plasmon resonance

Microscopic Investigations of Sulfur - Rich Corrosion Products on Copper

Structural and electronic properties of Li₈ZrO₆ and its CO₂ capture capabilities: an ab initio thermodynamic study

CO₂ Adsorption on TiO₂(101) Anatase: A Dispersion-corrected DFT Study

New Group-Contribution Parameters for the Prediction of PC-SAFT Parameters at Pressures to 276 MPa

Synthesis and characterization of nano-fluids containing metal oxide nanoparticles

Advanced Combustion

Advanced Combustion

Effect of SO₂ on Oxidation of Metallic Materials in CO₂/H₂O-Rich Gases Relevant to Oxyfuel Environment

Phase field modeling and multi-scale simulation of oxidation kinetics: transport of charge carriers subject to surface reactions

Mechanical and Transport Properties of Hollow Fibers Containing Ionic Liquids for CO₂/H₂ Separation

Microwave Approach to Sn/Graphene Composite Anodes for Lithium-Ion Batteries

High performance robust F-doped tin oxide based oxygen evolution electro-catalysts for PEM based water splitting

Photocatalytic Water Oxidation by Hematite/Reduced Graphene Oxide Composite

Application of Real Rock Pore-throat Statistics to a Regular Pore Network Model

Mechanical Strength and Bubble Point of Hollow Fiber Supported Ionic Liquid Membranes

Raman Sensor Field Testing Report with GE Cover Page

MECHANISMS OF WEAR REDUCTION IN HIGH CHROME OXIDE REFRACTORIES CONTAINING PHOSPHATE

CO₂ capture properties of lithium silicates with different ratios of Li₂O/SiO₂: an ab initio thermodynamic study

Migration of high-pressure air during gas well drilling in the Appalachian Basin

Changes in Native microbial communities exposed to geological carbon sequestration conditions in bacterial mats

Effects of Surface Hydrophobicity on the Kinetics of Methane Hydrate Formation in Partially Water-Saturated Systems

Theoretical Calculating the Thermodynamic Properties of CO₂ CAPTURE REACTIONS BY SOLID SORBENTS

X-ray photoelectron spectroscopic study of the effects of water and CO₂ on oxidized arsenopyrite and arsenic disulfide

Nitrogen Control in VIM Melts

Atmospheric monitoring of a perfluorocarbon tracer at the 2009 ZERT Center experiment in Bozeman, Montana

The Practical Application of Minor Element Control in Small Scale Melts

Oxygen Diffusion in Nickel : Ab initio calculations in combination with Kinetic Monte Carlo approach

Testing of Microwave Solids Flow Sensor for Chemical Looping

Review of Solids Flow Sensor Technology for Chemical Looping

IMPROVEMENT IN PRECISION, ACCURACY, AND EFFICIENCY IN STANDARDIZING THE CHARACTERIZATION OF SOLIDS FLOW SENSORS

IMPROVEMENT IN PRECISION, ACCURACY, AND EFFICIENCY IN STANDARDIZING THE CHARACTERIZATION OF SOLIDS FLOW SENSORS

Further theoretical evidence for hydrogen-assisted CO dissociation on Ru(0001)

Field, laboratory, and modeling experiments to understand stray gas mobilization during drilling

CO₂/brine/rock interactions under CO₂ sequestration conditions

Thermal Imaging Enhancement Algorithm for Gas Turbine Aerothermal Characterization

Geldart's classification of powders explained using cohesive forces

Analysis of calibration materials to improve dual-energy CT scanning for petrophysical applications

Structure and Property Correlations in CoFe-SiO₂ nanogranular Films Utilizing X-ray Photoelectron Spectroscopy

Erosion-Corrosion of Iron and Nickel Alloys at Elevated Temperature in a Combustion Gas Environment

A new Test for Pulp and Paper Forming Fabric Materials

Water quality issues related to Marcellus Shale derived fluids in the Allegheny River watershed, Pennsylvania

Measurement of atmospheric pollutants associated with oil and natural gas exploration and production

continuous monitoring of stable carbon isotopes for Methane source determination at a Marcellus Shale well

Molecular simulations of the miscibility and contact angles between ionic liquids and polymer films

Effect of Sour Environment Temperature on Fatigue Crack Propagation in Ultrahigh-Strength Steel

Effect of Stress Intensity Factor on Fatigue Crack Morphology in High-Strength Steels in Sour Environment

Determining the Discharge Rate from a Submerged Oil Leak Jet using ROV Video

Evaluation of Rh-Pyrochlore Coated Monolith for the Reforming of Diesel Fuel

Laser Spark Plug Numerical Design Process with Experimental Validation

ab initio thermodynamic study of the CO₂ capture properties of N₂CO₃(N=Na, K)- and CaCO₃-promoted systems

Mechanical and Transport Properties of Hollow Fibers Containing Ionic Liquids for CO₂/H₂ Separation

Investigation of the bubble point of supported ionic liquid membranes using flat sheet supports

Reversible Ageing Behavior of LSM electrodes at Open Circuit

Biomass Torrefaction: Applications in Renewable Energy and Fuels

Pr_{0.6}Sr_{0.4}CoO₃ catalyst for solid oxide fuel cell cathode introduced via infiltration

Time-dependent stability of SOFC activated by nano-sized cathode electrocatalyst

Ni(OH)₂ and NiO Single-Crystalline Nanoplatelet Arrays as Supercapacitor Electrodes

Magnetic characteristics of a new cubic defect spinel Li_{0.5}Mg_{0.5}MnO₃ for Li-ion batteries

Advanced Nanostructured Materials for Energy Applications: Optical Thin Films for High Temperature Solar Cells

Nodal Analysis Estimates of Fluid Flow from the BP Macondo MC252 Well

CO₂ utilization, a general overview

The Effect of Phosphate Additions on the Microstructure and Performance of Cr₂O₃ Gasifier Refractories

Modeling the Effect of particle size on the activation energy and ignition temperature of metallic nano
RESERVOIR CHARACTERIZATION of the DEVONIAN SHALE FORMATIONS in the APPALACHIAN BASIN and
Effects of Inclusions in HSLA Carbon Steel on Pitting Corrosion in CaCl_2
Surface Studies of HSLA Steel after Electrochemical Corrosion in Supercritical CO_2 - H_2O Environment
Coherent precipitates in Cr solid solution
Molecular Simulation of Carbon Dioxide Capture by Montmorillonite Using an Accurate and Flexible Fo
Optimization of IGCC with CFD Based ROM
Determination of elemental impurities in plastic calibration standards using laser induced breakdown
Characterization of Optical, Chemical, and Structural Changes upon Reduction of Sol-gel Deposited Sr
Flow Characterization Study in a Gas-Solid Fluidized Bed using an Electrical Capacitance Volume Tomo
Selective Electrocatalytic Activity of Ligand Stabilized Copper Oxide Nanoparticles
Computational modeling of oxidation and corrosion of alloys in complex environments
Investigation of Solid-Solid Separation in a Bubbling Fluidized Bed Cold Model
The US Department of Energy's Industrial Carbon Capture Initiative (ICMI)

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10/2/2014 Computational Science and Engineering Division	No Record
10/2/2014 Engineered Natural Systems Division	Approved
9/23/2014 Engineered Natural Systems Division	Approved
9/22/2014 Engineered Natural Systems Division	Approved
9/22/2014 Engineered Natural Systems Division	Approved
9/22/2014 Molecular Science Division	Approved
9/22/2014 Molecular Science Division	Approved
9/19/2014 Computational Science and Engineering Division	Approved
9/19/2014 Molecular Science Division	Approved
9/19/2014 Molecular Science Division	Approved
9/18/2014 Molecular Science Division	Approved
9/17/2014 Structural Materials Development Division	Approved
9/10/2014 Predictive Geosciences Division	Approved
9/10/2014 Predictive Geosciences Division	Approved
9/10/2014 Predictive Geosciences Division	Approved
9/10/2014 Predictive Geosciences Division	Approved
9/10/2014 Predictive Geosciences Division	Approved
9/8/2014 Molecular Science Division	Approved
9/8/2014 Molecular Science Division	Approved
9/8/2014 Predictive Geosciences Division	Approved
9/8/2014 Engineered Natural Systems Division	Approved
9/8/2014 Engineered Natural Systems Division	Approved
9/5/2014 Engineered Natural Systems Division	Approved
9/5/2014 Engineered Natural Systems Division	Approved
9/5/2014 Engineered Natural Systems Division	Approved
9/5/2014 Computational Science and Engineering Division	Approved

8/29/2014 Thermal Science Division	Approved
8/28/2014 Predictive Geosciences Division	Approved
8/26/2014 Molecular Science Division	Approved
8/26/2014 Molecular Science Division	Approved
8/25/2014 Thermal Science Division	Approved
8/22/2014 Predictive Geosciences Division	Approved
8/21/2014 Materials Characterization Division	Approved
8/21/2014 Predictive Geosciences Division	Approved
8/20/2014 Molecular Science Division	Approved
8/20/2014 Molecular Science Division	Approved
8/20/2014 Computational Science and Engineering Division	Approved
8/18/2014 Predictive Geosciences Division	Approved
8/11/2014 Computational Science and Engineering Division	Approved
8/7/2014 Molecular Science Division	Approved
8/5/2014 Structural Materials Development Division	Approved
8/5/2014 Structural Materials Development Division	Approved
7/30/2014 Predictive Geosciences Division	Approved
7/30/2014 Materials Characterization Division	Approved
7/29/2014 Computational Science and Engineering Division	Approved
7/29/2014 Engineered Natural Systems Division	Approved
7/28/2014 Predictive Geosciences Division	Approved
7/28/2014 Predictive Geosciences Division	No record
7/28/2014 Energy Process Innovation Division	Approved
7/25/2014 Office of Research & Development - Level 1	No record
7/22/2014 Molecular Science Division	Approved
7/21/2014 Thermal Science Division	Approved
7/10/2014 Engineered Natural Systems Division	Approved
7/10/2014 Engineered Natural Systems Division	Approved
7/10/2014 Engineered Natural Systems Division	Approved
7/1/2014 Engineered Natural Systems Division	Approved
6/30/2014 Engineered Natural Systems Division	Approved
6/27/2014 Structural Materials Development Division	Approved
6/26/2014 Structural Materials Development Division	Approved
6/25/2014 Energy Process Innovation Division	Approved
6/24/2014 Thermal Science Division	Approved
6/19/2014 Engineered Natural Systems Division	Approved
6/16/2014 Molecular Science Division	Approved
6/13/2014 Functional Materials Development Division	Approved
6/13/2014 Functional Materials Development Division	Approved
6/13/2014 Functional Materials Development Division	Approved
6/10/2014 Engineered Natural Systems Division	Approved
6/10/2014 Molecular Science Division	Approved
6/5/2014 Energy Process Innovation Division	Approved
6/5/2014 Energy Process Innovation Division	Approved
5/30/2014 Functional Materials Development Division	Approved

5/30/2014 Functional Materials Development Division	Approved
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5/21/2014 Materials Characterization Division	Approved
5/20/2014 Structural Materials Development Division	Approved
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5/19/2014 Predictive Geosciences Division	Approved
5/15/2014 Thermal Science Division	Approved
5/13/2014 Computational Science and Engineering Division	Approved
5/12/2014 Engineered Natural Systems Division	Approved
5/5/2014 Computational Science and Engineering Division	Approved
5/5/2014 Computational Science and Engineering Division	Approved
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5/5/2014 Computational Science and Engineering Division	Approved
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6/23/2015 Thermal Science Division	
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6/22/2015 Thermal Science Division	
6/22/2015 Thermal Science Division	
4/24/2012 Computational Science Division	Approved
5/4/2011 Computational Science Division	Approved
7/28/2011 Geosciences Division	Approved
7/28/2011 Geosciences Division	Approved
7/28/2011 Geosciences Division	Approved

7/28/2011 Geosciences Division	Approved
7/29/2011 Geosciences Division	Approved
5/4/2011 Computational Science Division	Approved
8/3/2011 Earth & Mineral Science Division	Approved
8/3/2011 Separations & Fuels Processing Division	Approved
8/3/2011 Process Development Division	Approved
Earth & Mineral Science Division	Approved
8/3/2011 Earth & Mineral Science Division	Approved
5/4/2011 Computational Science Division	Approved
8/4/2011 Earth & Mineral Science Division	Approved
8/4/2011 Earth & Mineral Science Division	Rejected
8/4/2011 Geosciences Division	Approved
8/8/2011 Earth & Mineral Science Division	Approved
8/10/2011 Computational Science Division	Approved
8/11/2011 Chemistry & Surface Science Division	Approved
8/12/2011 Separations & Fuels Processing Division	Approved
8/12/2011 Separations & Fuels Processing Division	Approved
8/22/2011 Chemistry & Surface Science Division	Approved
8/22/2011 Chemistry & Surface Science Division	Approved
8/22/2011 Chemistry & Surface Science Division	Approved
5/5/2011 Computational Science Division	Approved
8/22/2011 Materials Performance Division	Approved
8/22/2011 Materials Performance Division	Approved
8/23/2011 Materials Performance Division	Approved
8/23/2011 Materials Performance Division	Approved
8/25/2011 Computational Science Division	Approved
8/25/2011 Computational Science Division	
8/25/2011 Computational Science Division	Approved
8/26/2011 Computational Science Division	Approved
8/26/2011 Earth & Mineral Science Division	Approved
9/2/2011 Energy System Dynamics Division	Approved
5/5/2011 Earth & Mineral Science Division	Approved
9/6/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/7/2011 Computational Science Division	Approved
5/9/2011 Chemistry & Surface Science Division	Approved
9/7/2011 Computational Science Division	Approved
9/6/2011 Separations & Fuels Processing Division	Approved

9/9/2011 Separations & Fuels Processing Division	Approved
9/14/2011 Geosciences Division	Approved
9/14/2011 Chemistry & Surface Science Division	Approved
9/14/2011 Chemistry & Surface Science Division	Approved
9/19/2011 Energy System Dynamics Division	Approved
9/19/2011 Earth & Mineral Science Division	Approved
9/19/2011 Earth & Mineral Science Division	Approved
9/19/2011 Earth & Mineral Science Division	Approved
9/19/2011 Earth & Mineral Science Division	Approved
5/9/2011 Chemistry & Surface Science Division	Approved
9/19/2011 Earth & Mineral Science Division	Approved
9/19/2011 Energy System Dynamics Division	Approved
9/19/2011 Environmental Science Division	Approved
9/22/2011 Computational Science Division	
9/23/2011 Energy System Dynamics Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
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9/26/2011 Separations & Fuels Processing Division	Approved
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9/26/2011 Separations & Fuels Processing Division	Approved
5/10/2011 Process Development Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
9/26/2011 Separations & Fuels Processing Division	Approved
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9/26/2011 Separations & Fuels Processing Division	Approved
9/27/2011 Environmental Science Division	Approved
5/10/2011 Process Development Division	Approved
9/28/2011 Materials Performance Division	Approved
9/28/2011 Materials Performance Division	Approved
9/28/2011 Materials Performance Division	Approved
9/28/2011 Materials Performance Division	Approved
9/28/2011 Materials Performance Division	Approved
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9/28/2011 Materials Performance Division	Approved
10/4/2011 Earth & Mineral Science Division	Approved
10/5/2011 Separations & Fuels Processing Division	Approved
10/5/2011 Geosciences Division	Approved

[illegible]

12/5/2011 Computational Science Division	Approved
12/5/2011 Computational Science Division	Approved
12/5/2011 Computational Science Division	Approved
12/6/2011 Materials Performance Division	Approved
12/6/2011 Materials Performance Division	Approved
12/12/2011 Energy System Dynamics Division	Approved
12/15/2011 Chemistry & Surface Science Division	Approved
12/16/2011 Process Development Division	Approved
12/16/2011 Process Development Division	Approved
Process Development Division	Approved
12/16/2011 Process Development Division	Approved
12/22/2011 Chemistry & Surface Science Division	Approved
12/22/2011 Computational Science Division	Approved
12/29/2011 Materials Performance Division	Canceled
5/25/2011 Chemistry & Surface Science Division	Approved
1/4/2012 Process Development Division	Approved
1/5/2012 Computational Science Division	Approved
1/5/2012 Computational Science Division	Approved
1/5/2012 Geosciences Division	Approved
1/5/2012 Materials Performance Division	Approved
1/6/2012 Separations & Fuels Processing Division	Approved
1/6/2012 Computational Science Division	Approved
1/6/2012 Computational Science Division	Approved
1/6/2012 Computational Science Division	Approved
1/6/2012 Computational Science Division	Approved
Energy System Dynamics Division	Approved
1/6/2012 Computational Science Division	Approved
1/10/2012 Computational Science Division	Approved
1/11/2012 Energy System Dynamics Division	Approved
1/11/2012 Computational Science Division	Approved
1/13/2012 Computational Science Division	Approved
1/13/2012 Computational Science Division	Approved
1/17/2012 Computational Science Division	Approved
1/20/2012 Computational Science Division	Approved
1/20/2012 Computational Science Division	Approved
1/20/2012 Chemistry & Surface Science Division	Approved
5/26/2011 Earth & Mineral Science Division	Approved
1/20/2012 Computational Science Division	Approved
1/20/2012 Computational Science Division	Approved
1/23/2012 Chemistry & Surface Science Division	Approved
1/23/2012 Chemistry & Surface Science Division	Approved
Materials Performance Division	Approved
1/25/2012 Energy System Dynamics Division	Approved
1/25/2012 Energy System Dynamics Division	Approved
1/25/2012 Energy System Dynamics Division	Approved

1/25/2012 Energy System Dynamics Division	Approved
1/25/2012 Energy System Dynamics Division	Approved
1/25/2012 Energy System Dynamics Division	Approved
1/27/2012 Separations & Fuels Processing Division	Approved
5/27/2011 Chemistry & Surface Science Division	Approved
Computational Science Division	Approved
1/30/2012 Computational Science Division	Approved
1/31/2012 Chemistry & Surface Science Division	Approved
1/31/2012 Materials Performance Division	Approved
2/1/2012 Materials Performance Division	
2/3/2012 Computational Science Division	Approved
2/6/2012 Geosciences Division	Approved
2/6/2012 Geosciences Division	Approved
2/7/2012 Process Development Division	Approved
2/7/2012 Process Development Division	Approved
5/27/2011 Earth & Mineral Science Division	Approved
2/7/2012 Process Development Division	Approved
2/7/2012 Process Development Division	Approved
2/9/2012 Computational Science Division	Approved
2/9/2012 Computational Science Division	Approved
2/9/2012 Separations & Fuels Processing Division	Approved
2/9/2012 Separations & Fuels Processing Division	Approved
2/13/2012 Earth & Mineral Science Division	Approved
2/14/2012 Chemistry & Surface Science Division	Approved
2/15/2012 Earth & Mineral Science Division	Approved
2/15/2012 Separations & Fuels Processing Division	Approved
5/31/2011 Chemistry & Surface Science Division	Approved
2/15/2012 Earth & Mineral Science Division	Approved
2/17/2012 Separations & Fuels Processing Division	Approved
2/17/2012 Computational Science Division	Approved
2/20/2012 Chemistry & Surface Science Division	Approved
2/21/2012 Computational Science Division	Approved
2/21/2012 Energy System Dynamics Division	Approved
2/22/2012 Earth & Mineral Science Division	Approved
2/22/2012 Materials Performance Division	Approved
2/22/2012 Chemistry & Surface Science Division	Approved
2/28/2012 Chemistry & Surface Science Division	Approved
6/1/2011 Chemistry & Surface Science Division	Approved
2/28/2012 Energy System Dynamics Division	Approved
2/28/2012 Energy System Dynamics Division	Approved
3/2/2012 Energy System Dynamics Division	Approved
3/2/2012 Geosciences Division	Approved
3/6/2012 Earth & Mineral Science Division	Approved
3/6/2012 Separations & Fuels Processing Division	Approved
3/7/2012 Separations & Fuels Processing Division	Approved

Chemistry & Surface Science Division	Approved
3/12/2012 Computational Science Division	Approved
6/2/2011 Computational Science Division	Approved
6/2/2011 Computational Science Division	Approved
3/13/2012 Earth & Mineral Science Division	Approved
3/15/2012 Geosciences Division	Approved
3/15/2012 Energy System Dynamics Division	Approved
3/21/2012 Earth & Mineral Science Division	Approved
3/21/2012 Earth & Mineral Science Division	Approved
3/21/2012 Separations & Fuels Processing Division	Approved
3/22/2012 Chemistry & Surface Science Division	Approved
3/22/2012 Chemistry & Surface Science Division	Approved
3/23/2012 Materials Performance Division	Approved
3/26/2012 Computational Science Division	Approved
3/27/2012 Earth & Mineral Science Division	Approved
3/28/2012 Geosciences Division	Approved
Materials Performance Division	Approved
3/29/2012 Chemistry & Surface Science Division	Approved
3/30/2012 Computational Science Division	Approved
4/3/2012 Separations & Fuels Processing Division	Approved
4/3/2012 Process Development Division	Approved
4/4/2012 Separations & Fuels Processing Division	Approved
4/6/2012 Materials Performance Division	Approved
4/6/2012 Materials Performance Division	Approved
4/6/2012 Materials Performance Division	Approved
Materials Performance Division	Approved
4/6/2012 Materials Performance Division	Approved
4/9/2012 Computational Science Division	Approved
4/10/2012 Earth & Mineral Science Division	Approved
4/12/2012 Computational Science Division	Approved
4/12/2012 Computational Science Division	Approved
4/12/2012 Computational Science Division	Approved
4/12/2012 Materials Performance Division	Approved
4/13/2012 Geosciences Division	Approved
4/13/2012 Computational Science Division	Approved
4/13/2012 Computational Science Division	Approved
4/13/2012 Computational Science Division	Approved
4/15/2012 Computational Science Division	Approved
4/17/2012 Energy System Dynamics Division	Approved
4/17/2012 Energy System Dynamics Division	Rejected
4/18/2012 Chemistry & Surface Science Division	Approved
4/19/2012 Separations & Fuels Processing Division	Approved
4/20/2012 Computational Science Division	Approved
4/23/2012 Chemistry & Surface Science Division	Approved
4/23/2012 Computational Science Division	Approved

4/24/2012 Computational Science Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Chemistry & Surface Science Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/25/2012 Materials Performance Division	Approved
4/26/2012 Computational Science Division	Approved
4/26/2012 Computational Science Division	Approved
4/26/2012 Computational Science Division	Approved
4/28/2012 Chemistry & Surface Science Division	Approved
4/28/2012 Computational Science Division	Approved
4/28/2012 Computational Science Division	Approved
4/29/2012 Computational Science Division	Approved
4/29/2012 Computational Science Division	Approved
4/30/2012 Computational Science Division	Approved
4/30/2012 Energy System Dynamics Division	Approved
5/1/2012 Computational Science Division	Approved
5/1/2012 Computational Science Division	Rejected
5/1/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Materials Performance Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Separations & Fuels Processing Division	Approved
5/2/2012 Computational Science Division	Approved
5/2/2012 Computational Science Division	Approved
5/3/2012 Geosciences Division	Approved
5/2/2011 Separations & Fuels Processing Division	Approved
5/3/2012 Separations & Fuels Processing Division	Approved
5/3/2012 Separations & Fuels Processing Division	Approved
5/3/2012 Separations & Fuels Processing Division	Approved
5/4/2012 Separations & Fuels Processing Division	Approved
5/4/2012 Separations & Fuels Processing Division	Approved

5/7/2012 Geosciences Division	Approved
5/7/2012 Geosciences Division	Approved
5/8/2012 Materials Performance Division	Approved
5/9/2012 Computational Science Division	Approved
5/9/2012 Computational Science Division	Approved
5/10/2012 Separations & Fuels Processing Division	Approved
5/14/2012 Chemistry & Surface Science Division	Approved
5/15/2012 Computational Science Division	Approved
5/15/2012 Energy System Dynamics Division	Approved
5/21/2012 Energy System Dynamics Division	Approved
5/22/2012 Earth & Mineral Science Division	Approved
5/31/2012 Energy System Dynamics Division	Approved
6/8/2012 Geosciences Division	Approved
6/11/2012 Earth & Mineral Science Division	Approved
6/12/2012 Materials Performance Division	Approved
Separations & Fuels Processing Division	
6/15/2012 Materials Performance Division	Approved
6/15/2012 Materials Performance Division	Approved
6/20/2012 Energy System Dynamics Division	Approved
6/25/2012 Thermal Science Division	Approved
6/27/2012 Separations & Fuels Processing Division	Approved
6/29/2012 Energy System Dynamics Division	Approved
7/2/2012 Materials Performance Division	Approved
7/7/2012 Chemistry & Surface Science Division	Approved
7/13/2012 Materials Performance Division	Approved
7/13/2012 Materials Performance Division	Approved
Geosciences Division	Approved
7/15/2012 Chemistry & Surface Science Division	Approved
7/15/2012 Chemistry & Surface Science Division	Approved
7/16/2012 Earth & Mineral Science Division	Approved
7/17/2012 Materials Performance Division	Approved
7/18/2012 Earth & Mineral Science Division	Approved
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7/18/2012 Chemistry & Surface Science Division	Approved
7/19/2012 Earth & Mineral Science Division	Rejected
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7/24/2012 Separations & Fuels Processing Division	Approved
7/25/2012 Earth & Mineral Science Division	Approved
7/25/2012 Energy System Dynamics Division	Approved
7/26/2012 Chemistry & Surface Science Division	Approved
7/27/2012 Earth & Mineral Science Division	Rejected
7/27/2012 Materials Performance Division	Approved
7/27/2012 Materials Performance Division	Approved
7/30/2012 Separations & Fuels Processing Division	Approved
7/30/2012 Separations & Fuels Processing Division	Approved

8/1/2012 Computational Science Division	Approved
8/2/2012 Geosciences Division	Approved
8/2/2012 Process Development Division	Approved
8/7/2012 Chemistry & Surface Science Division	Approved
8/9/2012 Geosciences Division	Approved
8/13/2012 Geosciences Division	Approved
Geosciences Division	Approved
8/14/2012 Geosciences Division	Approved
8/14/2012 Geosciences Division	Approved
8/14/2012 Geosciences Division	Approved
8/14/2012 Geosciences Division	Approved
8/14/2012 Geosciences Division	Approved
8/15/2012 Computational Science Division	Approved
8/15/2012 Process Development Division	Approved
8/16/2012 Geosciences Division	Approved
8/17/2012 Separations & Fuels Processing Division	Approved
8/17/2012 Separations & Fuels Processing Division	Approved
8/17/2012 Separations & Fuels Processing Division	Approved
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8/17/2012 Separations & Fuels Processing Division	Approved
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Separations & Fuels Processing Division	Approved
8/19/2012 Chemistry & Surface Science Division	Approved
8/20/2012 Geosciences Division	Approved
8/20/2012 Geosciences Division	Approved
8/23/2012 Energy System Dynamics Division	Approved
8/23/2012 Energy System Dynamics Division	Approved
8/27/2012 Earth & Mineral Science Division	Approved
8/27/2012 Environmental Science Division	Approved
8/27/2012 Environmental Science Division	Approved
8/29/2012 Energy System Dynamics Division	Approved
8/30/2012 Materials Performance Division	Approved
Geosciences Division	Approved
9/5/2012 Earth & Mineral Science Division	Approved
9/7/2012 Computational Science Division	Approved
11/13/2012 Materials Performance Division	Approved
11/13/2012 Materials Performance Division	Approved
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11/13/2012 Materials Performance Division	
9/11/2012 Energy System Dynamics Division	Approved
9/11/2012 Energy System Dynamics Division	Approved

9/12/2012 Geosciences Division	Approved
9/13/2012 Energy System Dynamics Division	Approved
9/13/2012 Separations & Fuels Processing Division	Approved
9/13/2012 Separations & Fuels Processing Division	Approved
9/17/2012 Environmental Science Division	Approved
9/18/2012 Geosciences Division	Approved
9/20/2012 Materials Performance Division	Rejected
9/21/2012 Geosciences Division	Approved
9/24/2012 Environmental Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
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9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/25/2012 Computational Science Division	Approved
9/26/2012 Geosciences Division	Approved
9/28/2012 Earth & Mineral Science Division	Approved
Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Geosciences Division	Approved
10/2/2012 Separations & Fuels Processing Division	Approved
10/2/2012 Separations & Fuels Processing Division	Approved
10/2/2012 Separations & Fuels Processing Division	Approved
10/4/2012 Computational Science Division	Approved
10/4/2012 Geosciences Division	Approved
10/4/2012 Geosciences Division	Approved
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10/5/2012 Materials Performance Division	Approved
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10/10/2012 Earth & Mineral Science Division	Approved

10/10/2012 Earth & Mineral Science Division	Approved
10/11/2012 Geosciences Division	Approved
10/11/2012 Geosciences Division	Approved
10/11/2012 Geosciences Division	Approved
10/11/2012 Earth & Mineral Science Division	Approved
10/12/2012 Earth & Mineral Science Division	Approved
6/16/2011 Chemistry & Surface Science Division	Approved
10/15/2012 Computational Science Division	Approved
10/18/2012 Geosciences Division	Approved
10/18/2012 Geosciences Division	Rejected
10/19/2012 Chemistry & Surface Science Division	Approved
10/19/2012 Earth & Mineral Science Division	Rejected
10/22/2012 Energy System Dynamics Division	Approved
10/26/2012 Energy System Dynamics Division	Approved
10/29/2012 Energy System Dynamics Division	Approved
10/30/2012 Geosciences Division	Approved
10/30/2012 Geosciences Division	Approved
6/16/2011 Chemistry & Surface Science Division	Approved
10/30/2012 Process Development Division	Approved
10/30/2012 Materials Performance Division	Approved
10/31/2012 Energy System Dynamics Division	Approved
10/31/2012 Energy System Dynamics Division	Approved
11/1/2012 Energy System Dynamics Division	Rejected
11/1/2012 Environmental Science Division	Approved
11/2/2012 Geosciences Division	Approved
11/2/2012 Energy System Dynamics Division	Approved
11/2/2012 Materials Performance Division	Approved
11/5/2012 Geosciences Division	Approved
11/5/2012 Geosciences Division	Rejected
11/5/2012 Process Development Division	Approved
11/6/2012 Separations & Fuels Processing Division	Approved
11/6/2012 Separations & Fuels Processing Division	Approved
11/6/2012 Process Development Division	Approved
11/8/2012 Chemistry & Surface Science Division	Approved
11/13/2012 Earth & Mineral Science Division	Approved
11/14/2012 Computational Science Division	Approved
11/14/2012 Computational Science Division	Approved
11/14/2012 Computational Science Division	Approved
11/14/2012 Computational Science Division	Approved
11/14/2012 Computational Science Division	Approved
11/15/2012 Materials Performance Division	Approved
11/15/2012 Materials Performance Division	
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11/15/2012 Materials Performance Division	
11/15/2012 Materials Performance Division	

11/16/2012 Chemistry & Surface Science Division	Rejected
11/20/2012 Computational Science Division	Approved
11/29/2012 Chemistry & Surface Science Division	Approved
11/29/2012 Chemistry & Surface Science Division	Approved
11/29/2012 Geosciences Division	Approved
11/29/2012 Earth & Mineral Science Division	Approved
11/29/2012 Earth & Mineral Science Division	Approved
11/29/2012 Earth & Mineral Science Division	Approved
11/29/2012 Materials Performance Division	Approved
5/3/2011 Energy System Dynamics Division	Approved
11/30/2012 Separations & Fuels Processing Division	Approved
11/30/2012 Separations & Fuels Processing Division	Approved
11/30/2012 Separations & Fuels Processing Division	Approved
11/30/2012 Separations & Fuels Processing Division	Approved
12/6/2012 Earth & Mineral Science Division	Approved
12/10/2012 Geosciences Division	Approved
12/12/2012 Separations & Fuels Processing Division	Approved
12/14/2012 Materials Performance Division	Approved
12/14/2012 Process Development Division	Approved
12/19/2012 Materials Performance Division	Approved
12/19/2012 Materials Performance Division	Approved
12/19/2012 Materials Performance Division	Approved
12/19/2012 Environmental Science Division	Approved
12/19/2012 Environmental Science Division	Approved
12/19/2012 Environmental Science Division	Approved
12/20/2012 Materials Performance Division	Approved
12/20/2012 Materials Performance Division	Approved
12/20/2012 Materials Performance Division	Approved
12/20/2012 Materials Performance Division	Approved
12/21/2012 Process Development Division	Approved
12/26/2012 Chemistry & Surface Science Division	Approved
1/2/2013 Geosciences Division	Approved
1/2/2013 Geosciences Division	Approved
1/2/2013 Geosciences Division	Approved
1/3/2013 Materials Performance Division	Approved
1/4/2013 Process Development Division	Approved
1/4/2013 Materials Performance Division	Approved
1/7/2013 Materials Performance Division	Approved
1/7/2013 Materials Performance Division	Approved
1/9/2013 Geosciences Division	Approved
6/24/2011 Chemistry & Surface Science Division	Rejected
1/11/2013 Energy System Dynamics Division	Approved
1/14/2013 Computational Science Division	
1/14/2013 Computational Science Division	Approved
1/15/2013 Environmental Science Division	Approved

1/15/2013 Geosciences Division	Approved
Environmental Science Division	Approved
1/16/2013 Geosciences Division	Approved
1/16/2013 Engineering Research Division	
1/16/2013 Environmental Science Division	Approved
1/18/2013 Geosciences Division	Approved
1/18/2013 Computational Science Division	Approved
1/18/2013 Computational Science Division	Approved
6/24/2011 Chemistry & Surface Science Division	Approved
1/18/2013 Energy System Dynamics Division	Approved
1/22/2013 Geosciences Division	Approved
1/22/2013 Geosciences Division	Approved
1/22/2013 Computational Science Division	Approved
1/22/2013 Computational Science Division	Approved
1/22/2013 Geosciences Division	Approved
1/24/2013 Energy System Dynamics Division	Approved
1/28/2013 Chemistry & Surface Science Division	Approved
1/30/2013 Chemistry & Surface Science Division	Approved
1/31/2013 Chemistry & Surface Science Division	Rejected
2/1/2013 Chemistry & Surface Science Division	Approved
6/24/2011 Geosciences Division	Approved
2/5/2013 Computational Science Division	Approved
2/8/2013 Computational Science Division	Approved
2/8/2013 Computational Science Division	Approved
2/8/2013 Computational Science Division	Approved
2/8/2013 Computational Science Division	Approved
2/11/2013 Chemistry & Surface Science Division	Approved
2/11/2013 Energy System Dynamics Division	Approved
2/13/2013 Materials Performance Division	Approved
2/19/2013 Chemistry & Surface Science Division	Approved
6/27/2011 Chemistry & Surface Science Division	Approved
3/8/2013 Earth & Mineral Science Division	Approved
3/11/2013 Environmental Science Division	Approved
3/11/2013 Materials Performance Division	Rejected
3/11/2013 Materials Performance Division	Rejected
3/12/2013 Materials Performance Division	Approved
3/15/2013 Materials Performance Division	Approved
3/20/2013 Separations & Fuels Processing Division	Approved
3/20/2013 Materials Performance Division	Approved
3/20/2013 Materials Performance Division	Approved
3/20/2013 Materials Performance Division	Approved
6/28/2011 Geosciences Division	Approved
3/20/2013 Separations & Fuels Processing Division	
3/21/2013 Energy System Dynamics Division	Approved
3/28/2013 Materials Performance Division	

4/4/2013 Chemistry & Surface Science Division	Approved
4/4/2013 Earth & Mineral Science Division	Approved
4/9/2013 Process Development Division	Approved
4/10/2013 Earth & Mineral Science Division	Approved
4/11/2013 Chemistry & Surface Science Division	
4/11/2013 Chemistry & Surface Science Division	Approved
4/12/2013 Process Development Division	Approved
6/28/2011 Environmental Science Division	Approved
4/12/2013 Process Development Division	Approved
4/15/2013 Chemistry & Surface Science Division	Approved
4/16/2013 Energy System Dynamics Division	Approved
4/16/2013 Energy System Dynamics Division	Approved
4/17/2013 Computational Science Division	Approved
4/17/2013 Computational Science Division	Approved
4/18/2013 Chemistry & Surface Science Division	Approved
4/24/2013 Earth & Mineral Science Division	Approved
4/25/2013 Geosciences Division	Approved
4/30/2013 Geosciences Division	Approved
4/30/2013 Computational Science Division	Approved
6/28/2011 Geosciences Division	Approved
5/1/2013 Chemistry & Surface Science Division	Approved
5/2/2013 Materials Performance Division	
5/2/2013 Materials Performance Division	
5/10/2013 Geosciences Division	Approved
5/14/2013 Environmental Science Division	Approved
5/14/2013 Environmental Science Division	Approved
5/17/2013 Separations & Fuels Processing Division	
5/20/2013 Materials Performance Division	
5/20/2013 Materials Performance Division	
5/22/2013 Computational Science Division	Approved
5/4/2011 Separations & Fuels Processing Division	Approved
6/28/2011 Geosciences Division	Approved
5/24/2013 Chemistry & Surface Science Division	Approved
5/24/2013 Separations & Fuels Processing Division	
5/24/2013 Separations & Fuels Processing Division	
7/5/2011 Energy System Dynamics Division	Approved
7/6/2011 Chemistry & Surface Science Division	Approved
7/7/2011 Materials Performance Division	Approved
7/7/2011 Materials Performance Division	Approved
7/7/2011 Materials Performance Division	Approved
7/7/2011 Materials Performance Division	Approved
7/8/2011 Chemistry & Surface Science Division	Approved
7/11/2011 Geosciences Division	Approved
7/11/2011 Energy System Dynamics Division	Approved
7/11/2011 Materials Performance Division	Approved

7/12/2011 Environmental Science Division	Approved
7/14/2011 Earth & Mineral Science Division	Approved
7/15/2011 Materials Performance Division	Approved
7/15/2011 Materials Performance Division	Approved
7/18/2011 Process Development Division	Approved
7/18/2011 Geosciences Division	Approved
5/4/2011 Computational Science Division	Approved
7/20/2011 Geosciences Division	Approved
7/20/2011 Chemistry & Surface Science Division	Approved
7/22/2011 Energy System Dynamics Division	Approved
7/26/2011 Chemistry & Surface Science Division	Approved
7/26/2011 Materials Performance Division	Approved
7/27/2011 Energy System Dynamics Division	Approved
7/28/2011 Energy System Dynamics Division	Approved